

## MATHEMATICAL PROCESS—CONNECTING



### THE ONTARIO CURRICULUM, MATHEMATICS, 2005

Students will make connections among mathematical concepts and procedures, and relate mathematical ideas to situations or phenomena drawn from other contexts (e.g., other curriculum areas, daily life, current events, art and culture, sports).

Students need to see the connections and the relationships between mathematical concepts and skills from one strand of mathematics to another. As they continue to make such connections, students begin to see that mathematics is more than a series of isolated skills and concepts, and they can use their learning in one area of mathematics to understand another. Seeing connections among procedures and concepts also helps deepen students' mathematical understanding. Further, making connections between the mathematics they study and its application in their everyday lives helps students see how useful and relevant it is in the world beyond the classroom.

### ROLE OF STUDENTS

#### Select Tools

- Apply a strategy or reference system that draws on previous learning in another context.
- Make connections between new and prior knowledge to make sense of what they are learning.
- Apply mathematics to contexts outside of mathematics.
- Use different models to best convey mathematical information and demonstrate their conceptual understanding of a procedure.
- Make connections between different representations, e.g., numeric, graphical and/or algebraic.

### SAMPLE QUESTIONS

- What other math have you studied that has some of the same principles, properties or procedures as this, e.g., how does knowing the formula for the volume of the rectangular prism help us to find the formula for the volume of a triangular prism? How is adding “like terms” similar to adding integers?
- How do these different representations connect to one another, e.g., what seems to be the connection between the horizontal intercept of the graph and the numeric table of values?
- When could this mathematical concept or procedure be used in daily life?
- What connection do you see between a problem you did previously and today's problem?

### SAMPLE FEEDBACK

- How can you relate your understanding of...to this problem?
- How does your representation (e.g., diagram, sketch, manipulative) connect to..., e.g., the algebraic solution?
- Please describe the connections you see between...and...
  - How does this method relate to this problem?
  - How is that thinking connected to the question?